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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,518	01/30/2002	William D. Fisher	10010469-1	3691

7590 10/21/2005

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EXAMINER	
FORMAN, BETTY J	

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/066,518	FISHER ET AL.	
	Examiner	Art Unit	
	BJ Forman	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,13-19 and 44-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,13-19 and 44-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 August 2005 has been entered.

Status of the Claims

2. This action is in response to papers filed 23 August 2005 in which claims 1 and 9 were amended and claims 44-46 were added. the amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 21 April 2005 are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

Claims 1-10, 13-19 and 44-46 are under prosecution.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10, 13, 18-19 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowallis et al (U.S. Patent No. 6,228,659, issued 8 May 2001) in view of Tisone et al (U.S. Patent No. 6,063,339, issued 16 May 2000).

Regarding Claims 1 and 44, Kowallis et al teach a method for producing multiple arrays on a substrate (Fig.1), wherein each array has multiples rows of features separated by inter-feature areas (Fig. 1B), the multiple arrays separated by inter-array areas, larger than the inter-feature areas (Column 2, lines 1-52 and Fig. 1) wherein the arrays are arranged in sets (e.g. row 88 represents one set, row 90 represents a second set, Fig. 6) and the method comprising dispensing drops onto the substrate from a drop dispensing head that dispenses while maintaining a gap (e.g. ink-jet deposition, Column 2, lines 22-25; Column 4, lines 20-23 and Claim 12), moving the head and substrate relative to one another along a bi-directional path wherein the moving comprises moving the head in a direction along an array set, moving the head in the opposite direction along the second array set without intervening movement of the head (first pass, direction 96 along array set 88, second pass in direction 98 along array set 90 (Fig. 6, Column 5, line 64-Column 6, line 10).

Kowallis teaches the method wherein the head moves along the arrays for dispensing (Abstract) but they are silent regarding dispensing while moving the substrate and head relative to each other. However, Tisone et al teach a similar method of printing on a substrate wherein the dispensing is continuous whereby accurate and even printing is achieved (Column 24, lines 23-25). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the continuous printing of Tisone et al to the array printing of Kowallis et al for the expected benefit of accurate and even printing as taught by Tisone et al (Column 24, lines 23-25).

Regarding Claim 2, Kowallis et al teach the arrays are biopolymer arrays (Column 1,lines 9-11).

Regarding Claim 3, Kowallis et al teach the first and second array sets are adjacent (e.g. row 88 represents one set, row 90 represents a second set, Fig. 6).

Regarding Claim 4, Kowallis et al teach the method wherein repeating is with the same two array sets (array sets 88 and 90 are bi-directionally printed, Column 5, line 64-Column 6, line 11).

Regarding Claim 5, Kowallis et al teach the method wherein each repeat of (b) is with a new array i.e. the head advances to the next array row for bi-directional printing (Column 5, line 64-Column 6, line 11).

Regarding Claim 6, Kowallis et al teach the method wherein each new second array set is adjacent the first set (Fig. 6, Column 5, line 64-Column 6, line 11).

Regarding Claim 7, Kowallis et al teach repeated relative movement between the head and substrate (Column 5, line 64-Column 6, line 11).

Regarding Claim 8, Kowallis et al teach the method wherein the head is re-loaded between repetitions (supplied from on-board reservoir, Column 4, lines 20-22). It is noted that the claims do not define a specific point during the repetitions, the head is re-supplied. Hence, the on-board supplying of Kowallis is encompassed by the claimed re-loading.

Regarding Claim 9, Kowallis et al teach the method wherein the repeated movement of the head is parallel and offset (Fig. 6, Column 5, line 64-Column 6, line 11).

Regarding Claim 10, Kowallis et al teach the method wherein the rows of features are straight lines (Fig. 1B).

Regarding Claim 13, Kowallis et al teach the method wherein the arrays have the same layout (Fig. 1B and 4, Column 4, lines 42-67).

Regarding Claim 18, Kowallis et al teach the method wherein the head has multiple dispensers (Fig. 2, Column 5, lines 37-63).

Regarding Claim 19, Kowallis et al teach the method wherein the dispensers are pulse jets Column 2, lines 22-25; Column 4, lines 20-23 and Claim 12)

Regarding Claim 45, Kowallis et al teach the arrays are biopolymer arrays (Column 1,lines 9-11).

Regarding Claim 46, Kowallis et al teach the method wherein the head has multiple dispensers (Fig. 2, Column 5, lines 37-63).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kowallis et al (U.S. Patent No. 6,228,659, issued 8 May 2001) in view of Tisone et al (U.S. Patent No. 6,063,339, issued 16 May 2000) as applied to Claim 1 above and further in view of Gordon et al (U.S. Patent No. 5,486,452, issued 23 January 1996).

Regarding Claim 16, Kowallis et al and Tisone et al teach the method for producing multiple arrays on a substrate (Fig.1), wherein each array has multiples rows of features separated by inter-feature areas (Fig. 1B), the multiple arrays separated by inter-array areas, larger than the inter-feature areas (Column 2, lines 1-52 and Fig. 1) wherein the arrays are arranged in sets (e.g. row 88 represents one set, row 90 represents a second set, Fig. 6) whereby a plurality of arrays are produced (Kowallis, Abstract) but they are silent regarding separation of the arrays.

However, preparation of multiple-array substrates and separation of the arrays was well known in the art at the time the claimed invention was made as taught by Gordon et al who teaches that such array production and separation provides for mass production of a test system (Column 6, lines 30-33). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the array separation of Gordon et al to the multiple arrays of Kowallis et al for the expected benefit of mass production of the test system as desired in the art (Gordon et al, Column 6, lines 30-33).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kowallis et al (U.S. Patent No. 6,228,659, issued 8 May 2001) in view of Tisone et al (U.S. Patent No. 6,063,339, issued 16 May 2000) as applied to Claim 1 above and further in view of Zeleny et al (U.S. Patent No. 6,215,894, issued 10 April 2001).

Regarding Claim 17, Kowallis and Tisone teach the method for producing multiple arrays on a substrate (Fig.1), wherein each array has multiples rows of features separated by inter-feature areas (Fig. 1B), the multiple arrays separated by inter-array areas, larger than the inter-feature areas (Column 2, lines 1-52 and Fig. 1) wherein the arrays are arranged in sets (e.g. row 88 represents one set, row 90 represents a second set, Fig. 6) but they are silent regarding addition of identifiers to the substrate.

However, array identifiers were well known in the art at the time the claimed invention was made as taught by Zeleny et al who teaches that placing identifiers on the array, provides for automated control of array scanning and selection of proper analytical protocols, increases speed of processing and reduces probability of error (Column 1, lines 5-1 and Column 2, lines 48-52). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the array identifiers taught by Zeleny et al to the arrays of Kowallis for the expected benefit of providing for automated control of array scanning and selection of proper analytical protocols, increased speed of processing and reduced probability of error as taught by Zeleny et al (Column 1, lines 5-1 and Column 2, lines 48-52).

Allowable Subject Matter

7. Claims 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. No claim is allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571).272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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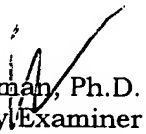

BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
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